

## REMARKS

Claims 1, 2 and 4-7 stand rejected under 35 U.S.C. §112, first paragraph, as being allegedly based on a non-enabling disclosure. Applicants respectfully traverse this rejection.

Applicants respectfully submit that the disclosure of the present application is enabling for Claims 1, 2 and 4-7. More specifically, the present Specification discloses moving “at least one second data item contained in the first page to the second page or the third page according to the amount of space in each of the second or third pages.” *See* Applicants’ Specification, page 12, lines 8-12. In the description on page 12, the first page is between the second and third pages. Thus, as described in the quoted passage, where there is insufficient space in either the second or third page, and there is sufficient space in the other, the data will be moved to the page with sufficient space, whether it is the second page or the third page (i.e., the movement is determined “according” to the amount of space). Further support that the data can be moved to either adjacent page can be found on page 14, lines 1-2 of the original Specification (“a necessary amount of data in the target page is moved to a neighbor page.”). Additionally, page 22 (line 2) through page 23 (line 9) of the original Specification also provide support for determining the amount of available space in both the page preceding the target page and the page following the target page, and moving data to either the preceding page or the following page, depending upon which one has available space. Accordingly, Applicants respectfully submit that because Claims 1, 2, and 4-7 are

fully enabled by the original Specification, this §112, first paragraph, rejection should be withdrawn.

Claims 1-3 and 5-7 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention. Claim 3 was cancelled in Amendment B, without prejudice, thereby rendering this rejection moot with respect to this claim. However, with respect to Claims 1, 2, and 5-7, Applicants respectfully traverse this rejection.

In Claim 1, step (c) refers to the general case of moving an item to the first page or the second page according to the amount of space in either the first page or the second page. The further description of step (c), of lines 15-17 of Claim 1, is a conditional statement that only applies “when” certain conditions are present (i.e., when the first page has sufficient available space and the second page does not). Thus, when the conditions of lines 15-17 are met, the data is moved to the first page. However, when the conditions of lines 15-17 are not met, the data can be moved to the second page. Thus, the phrase “or said second page” of line 12 should not be deleted. The similar phrases in independent Claims 6 and 7 are also clear for the same reasons discussed above with regard to independent Claim 1. Accordingly, as independent Claims 1, 6 and 7, and associated dependent Claims 3 and 5, are clear for the purposes of §112, second paragraph, Applicants respectfully request the withdrawal of this rejection.

Claims 1, 2 and 4-7 stand rejected under 35 U.S.C. §103 as being unpatentable over United States Patent No. 5,307,486 to Nakamigawa in view of the Culik publication “Dense Multiway Trees.” Applicants respectfully traverse this rejection.

Applicants respectfully submit that the cited references, alone or in combination, fail to disclose or suggest all of the features of the present invention. More specifically, neither the Nakamigawa reference nor the Culik publication disclose or suggest a process for managing a plurality of data items that includes, *inter alia*, the step of “storing, in an available space information storing unit, information on an amount of available space in each of said plurality of pages,” as defined in independent Claim 1. Nor do the cited references disclose the computer-readable storage medium of independent Claim 6 and the apparatus of independent Claim 7, which each include a similar feature to that described above with regard to independent Claim 1.

In the September 7, 2005 Office Action, the Examiner referred to Figures 2 and 3 of the Nakamigawa reference and stated that “the pointer count in each node is the information indirectly showing the amount of space available in each node.” *See* September 7, 2005 Office Action, page 4, paragraph 9, lines 6-9). However, even assuming *arguendo* that the pointer count does indirectly indicate that amount of available space in each node, Applicants respectfully submit that the Nakamigawa reference fails to disclose or suggest a direct indication of the amount of available space in each node, or page, and the Nakamigawa reference also fails to disclose or suggest that such direct indication is stored anywhere, as

defined in Claims 1, 6 and 7, which each recite that the information on the amount of available space in each page is stored in “an available-space-information storing unit.” One example of an available-space management table, which may be part of the claimed “available-space-information storing unit,” is shown in Applicants’ Figure 3(A), which shows an indication value that indicates the amount of available space in each page. In contrast, the Nakamigawa reference fails to disclose or suggest the use of such a storing unit, and the Culik publication does not remedy this deficiency. Accordingly, as all of the features of independent Claims 1, 6 and 7 are not disclosed or suggested in the cited references, Applicants respectfully request the withdrawal of this § 103 rejection of independent Claims 1, 6 and 7 and associated dependent Claims 2, 4 and 5.

Applicants also separately traverse dependent Claims 4 and 5 because the features defined in these claims are not disclosed or suggested in either the Nakamigawa reference or the Culik publication. More specifically, with regard to Claim 4, one example of how the “amount of available space is classified into one of a plurality of ranges of amounts of available space,” is shown in Applicants’ Figures 3(A) and (B). Figure 3(B) shows how the amount of available space is classified into ranges (such as the following ranges: 0-19%, 20%-39%, 40%-59%, and 60%-100%), and how those ranges are each assigned a binary indication value. Figure 3(A) shows how the information on the amount of available space, such as the table of Figure 3(A), indicates one of the plurality of ranges by referring to the binary indication value (from Figure 3(B)) for each page number.

In contrast, neither the Nakamigawa reference nor the Culik publication disclose or suggest such a feature with the plurality of ranges of amounts of the available space that are stored in an available-space-information storing unit, as defined in Claim 4 (which refers back to Claim 1). The Examiner indicated that he considered that values  $M'$ ,  $M$ ,  $m'$  and  $m$  of the Nakamigawa reference satisfy the claimed ranges. *See* September 7, 2005 Office Action, page 8, lines 18-19. However, values  $M'$ ,  $M$ ,  $m'$ , and  $m$  are not ranges, but are each merely a single value. More specifically,  $M$  is the upper limit pointer count,  $m$  is the lower limit pointer count and  $M'$  and  $m'$  are auxiliary constants calculated on the basis of  $M$ ,  $m$  and the buffer rate. Further, there is no disclosure or suggestion in the Nakamigawa reference that these values are stored in an available-space-information storing unit, as defined in Claim 4 (which refers back to Claim 1). Nor is this deficiency remedied by the Culik publication. Accordingly, for at least this additional reason, Applicants respectfully request the withdrawal of this §103 rejection of dependent Claim 4 and associated dependent Claim 5.

Applicants have also added new independent Claims 8 and 9, as well as new dependent Claims 10-17 (which each refer, directly or indirectly, to one of independent Claims 6-9). Applicants respectfully submit that new Claims 8-17 are also allowable over the references of record.

More specifically, with regard to new independent Claim 8, Applicants respectfully submit that the cited references fail to disclose or suggest a process in which,

*inter alia*, when both adjacent pages (i.e., the first and second pages) have sufficient available space, the data item is moved to the second page. In contrast, neither the Nakamigawa reference nor the Culik publication disclose or suggest storing information on the amount of available space in both first and second pages, considering the amount of available space of both the first and second pages, and, if both the first and second pages each have sufficient space, moving data to the second page. The Nakamigawa reference fails to include storing information about the available space, and it also fails to disclose any consideration of only pages on both sides of the target page. Although the Culik publication does mention consideration of pages on both sides of the target page, it fails to disclose moving data to the second page if both the first and second pages have available space. Accordingly, for at least these reasons, Applicants respectfully submit that new independent Claim 8 is allowable.

With regard to new independent Claim 9, Applicants respectfully submit that this claim is allowable because none of the cited references disclose or suggest a process that includes, *inter alia*, classifying the amount of available space into one of a plurality of ranges of amounts of available space, as discussed earlier with regard to Claim 4. Accordingly, allowance of Claim 9 is also requested.

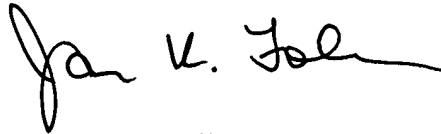
For all of the above reasons, Applicants request reconsideration and allowance of the claimed invention. Should the Examiner be of the opinion that a telephone conference

would aid in the prosecution of the application, or that outstanding issues exist, the Examiner is invited to contact the undersigned.

Respectfully submitted,

GREER, BURNS & CRAIN, LTD.

By



James K. Folker

Registration No. 37,538

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Suite 2500  
300 South Wacker Drive  
Chicago, Illinois 60606  
(312) 360-0080

Customer No. 24978

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